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As to the outfit for an Egyptian winter, bring all the varieties of clothing you possess, and make up your mind that you will not object to changing your garments to suit the temperature. With thin flannels or none for warm days, and heavy ones for cold, and plenty of rugs and wraps at hand, a dahabeah winter on the Nile need never be anything but a season of comfort; and those people who at home in America spend half the winter with various ailments, the result of cold, suffer no inconvenience. On the Nile, for general wear, light flannel dresses are the most suitable; the much lauded khaki is valuable only as a dust-proof garment. A veil is necessary for shore wear, and smoked glasses, or those of wire gauze, are good protection for the eyes.

Medicines should be selected to suit the patient, with disinfectants, and a stock of simple remedies to give away to sailors and servants and to natives, who take kindly to drugs dispensed by the traveller, rebel as they may against going to a hospital when ill. It is very amusing, the number of small woes a boat's crew can produce, and a cough, an infected finger, a cut, or a bruise is always promptly reported and always responds to treatment, bringing forth the grateful thanks of the afflicted. In its present-day simple inhabitants lies one great charm of Egypt. They repay any amount of study, and in them open up qualities and capabilities undreamed of before one came in contact with them. The whole land of Egypt, river, desert, field, and mountain, in common with its people and its past, possesses an insidious and permanent charm, not possible to realize until one is on the spot, and which it is impossible to escape from forever afterwards.

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## THE MODERN HOSPITAL: ITS VALUE TO THE PATIENT AND TO THE PHYSICIAN

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IN 1876 Sir Joseph Lister read a paper on the subject of "Surgical Antisepsis" before the International Congress of Physicians and Surgeons at Philadelphia. Much criticised and even condemned by some of the surgeons of America in the discussion which followed, this paper marks the boundary-line between the hospital system of the past and that of the present. Following closely upon the teaching of the germ theory of disease, the introduction of asepsis marked the beginning of a great change in the systematic management of hospital service. Not many of us are so young as not to remember the old-time hospital, with

its incapable nursing, its lack of that absolute cleanliness now regarded so essential, its highest aim serving rather for the care and cure of serious injuries or maladies than for the heroic treatment by the knife of supposedly incurable diseases. All of this has now been changed. The hospital that gives adequate service is a very complex institution. With the development of the principle of surgical asepsis, a new condition of things was absolutely demanded. In place of the self-trained helpers in the ward, a well-trained nurse, young, neat, and intelligent, was required to enable the surgeon to secure not only the best results, but to prevent inexcusable mishaps; hence resulted the establishment of the nurse training-schools in all of our large hospitals. Further, the plain operating-room, furnished only with hot and cold water and soap for asepsis, proved inadequate to the demands of modern surgery, and the well-appointed surgical pavilion, with necessary apparatus for proper sterilization of instruments, dressings, etc., has been required. The introduction of asepsis into surgery has greatly extended its field. Operations scarce dreamed of twenty-five years ago are commonly proposed and successfully done. The abdomen has been invaded, nearly every organ successfully treated or removed, while the brain cavity has often furnished the ground for successful operative work, and the heart itself has not escaped the surgeon's skill. All this has been made possible through the evolution of the hospital and the hospital service. The modern hospital, then, not only affords subsistence and care for the patients within its protection, but it must furnish a service adequate to supply the demands of the most daring operator. As a result, a systematic organization has grown up, the general rules of which must apply in every case where a hospital would offer the highest quality of care. For the sake of simplicity, the organization of a hospital may be divided into the matters of subsistence and service,—subsistence having to do merely with the food supply, the service with all that which pertains to the welfare and comfort of the patient. It is in this latter direction especially that the modern hospital is far in advance of the one of generations ago.

So complex have become the demands of the training-school, the surgical service, the ambulance service, the question of food supply, the attention to all details, that a single head is absolutely indispensable for a successful maintenance. The superintendent, responsible on the one hand to the Board of Managers for economy of administration, on the other to the physicians and surgeons for maintaining the best possible service, necessarily bears the great burden of administration and must have executive qualities of a high order. The control of the superintendent in all departments to be efficient must be absolute. Under the

superintendent in the larger and better managed hospitals are usually one or more assistant superintendents, a night superintendent, head nurses, nurses in active training, with all the service necessary for the domestic management of the household, consisting of housekeeper, cooks, waitresses, and maids. In addition there must be a clerk, a pharmacist, orderlies, elevator-boy, and hall-boys; the ambulance service must be efficient and constantly ready. The laundry, formerly rarely necessary, is now an important adjunct in every well-regulated hospital. Every hospital must have special facilities for steam-heating and steam-sterilizing, while many develop their own electric light by a special plant. All these in addition to the usual house officers or internes, consisting of two or more physicians and two or more surgeons. What a vast change from the old days, when the wards were served by three or four more or less decrepit old women, when there was no operating-pavilion, the only facilities consisting of a square room, an ordinary table in the centre with hot and cold water at most, and a case for the unsterilized instruments along the wall.

The greatly increased service, then, characterizes the hospital of the present day. This, however, did not come without great increase in expense. Where formerly four nurses answered for fifty patients, the service has become so amplified that in all our modern hospitals no nurse has more than three patients as an average to care for.

In the BOSTON CITY HOSPITAL, one of the best types of a modern hospital, the patients for 1900 averaged four hundred and fifty-four daily; the paid employees numbered three hundred and forty-nine, of whom one hundred and forty-three were nurses, giving each nurse on an average three patients.

At JOHNS HOPKINS HOSPITAL in 1899 the daily average of patients was two hundred and sixty-three; the nursing staff eighty-nine, or one nurse for every three patients.

In the PRESBYTERIAN HOSPITAL in New York in 1900 the daily average of patients was one hundred and ninety-five; the nursing staff eighty-five, or nearly one nurse to every two patients.

In the MASSACHUSETTS GENERAL the daily average number of patients during the year 1899 was two hundred and sixty-one; the total number of employees two hundred and forty, while the nursing staff numbered fifty-three, or one nurse to nearly five patients.

In the ROOSEVELT HOSPITAL in New York during 1899 the daily average number of patients was one hundred and seventy; the total number of employees two hundred, of whom eighty were nurses, or one nurse to two patients.

In our own CITY HOSPITAL the daily average for the past year has

been eighty-six patients; the nursing staff forty-five, a proportion of more than one nurse for every two patients.

Can one wonder, then, at the growing cost of hospital care? Let me give a few statistics for comparison:

In the BOSTON CITY HOSPITAL for 1900 the average cost of maintenance per patient was twelve dollars and thirty-nine cents per week, of which two dollars and fifty-one cents was for food and nine dollars and eighty-eight cents for service.

In the PRESBYTERIAN HOSPITAL, above mentioned, the cost of maintenance per week was seventeen dollars and eight cents, of which two dollars and thirty-one cents was for food and the balance, fourteen dollars and seventy-seven cents, for service.

In the UNIVERSITY HOSPITAL of Philadelphia the cost of maintenance per patient per week was twelve dollars and ninety-seven cents, of which two dollars and thirty-four cents was for food and ten dollars and sixty-three cents for service.

In the MASSACHUSETTS GENERAL in 1899 the cost of maintenance per patient per week was thirteen dollars and seventy-four cents, of which but two dollars and three cents was for food, leaving eleven dollars and seventy-one cents as the weekly cost of service per patient.

In the ROOSEVELT HOSPITAL the cost per week per patient was fourteen dollars and twenty-two cents in 1899, of which but two dollars and forty-six cents was for food.

In the ROCHESTER CITY HOSPITAL for the past year the cost of maintenance was eleven dollars and thirty-four cents per patient per week, of which one dollar and forty cents was for food and nine dollars and ninety-four cents for service. Of this last two dollars and thirty-one cents was for expense of maintaining plant. During the last year in the Rochester City Hospital the average daily number of patients was eighty-six; the number of employees during that same period was ninety. Nothing more conclusively shows the increase in the attention given by our modern hospital to the care and cure of the sick and injured. In the old days the average cost of maintenance per patient per week was from four to five dollars, possibly less; and this large increase in cost represents the demands made upon the hospital through modern methods. As will be seen by these comparative figures, the character of the service given by the Rochester City Hospital is excelled by that of no hospital in the land, and this at a cost which averages less than that in other and larger institutions.

The increased cost of hospital care admittedly has greatly lessened the mortality rate, especially in surgical work. But that boon, while warranting such expenditure, is not the only gain. So greatly has the effi-

ciency of hospital care increased that the average length of stay required for each patient has been greatly reduced.

In 1855 in the Massachusetts General Hospital the average length of stay of free patients was eighty-one days, in 1899 twenty days; thus showing that efficiency has been increased four-fold,—a sound financial argument in favor of highest efficiency, to say nothing of the suffering and anxiety spared sick humanity.

I have referred above to the primitive arrangements for surgical operations. The maintenance of the surgical pavilion, ready for instant use, is of itself an important but expensive item in the hospital service. Our own City Hospital, through the generosity of one member of its staff, possesses such a pavilion of the highest type of usefulness, but its cost to date has been nearly fifteen thousand dollars, and again shows to what extent demands of modern surgery influence the expenditure of money. This surgical pavilion, in charge of a paid nurse, is ready for use at any moment, with light, warmth, and steam for sterilization and all but inexhaustible in its resources for anæsthetics, instruments, and dressings. Let me give you an illustration of the requirements met with in two recent operations: one, an operation on a ward patient, may be regarded as economical, and yet this is the list of materials used:

Sheets .....	7	
Gowns .....	11	
Hand towels .....	14	
Surgical towels .....	40	
Gauze for sponges and other purposes .....	8½ yards.	
Laparotomy dressings, consisting of:		
Gauze .....	2	"
Absorbent cotton .....	1¼	"
Laparotomy flannel .....	1¼	"
Safety-pins .....	10	
Adhesive strap .....	27 by 3 inches.	
Green soap .....	8 ounces.	
Chloroform .....	2	"
Ether .....	1 pound.	
Lime .....	12 ounces.	
Soda .....	6	"
Scrubbing-brushes .....	5	"

At another operation, somewhat more generous in its proportions, the following was the list of materials used:

Sheets .....	9	
Gowns .....	16	
Surgical towels.....	100	
Gauze for sponges, etc.....	42 yards.	

## Vaginal and laparotomy dressings, consisting of:

Gauze .....	5 yards.
Absorbent cotton.....	$\frac{1}{4}$ yard.
Laparotomy flannel.....	$1\frac{1}{4}$ yards.
Safety-pins .....	15
Adhesive straps.....	

All these in addition to the service of three nurses, two doctors, one orderly, with heat, light, and the necessary laundering. The absolute cost of the material used in an operation is not a small item. For two months of the past year the average cost per operator in the surgical pavilion for drugs was one dollar and thirty-six cents; for dressings, fifty-one cents, or a total cost of one dollar and eighty-seven cents for each operation. The cost of service, of course, is not included in this. Up to last year it was the custom for the hospital to charge ten dollars for the use of the surgical pavilion for each operation. The income from this source in 1898 was two thousand one hundred and five dollars. At the beginning of 1899, at the request of the staff, this charge was removed, and the total income from the surgical pavilion fell to two hundred and eighty-nine dollars and fifty cents,—a cause of material loss to the hospital management.

Now a glance at the house service. In addition to the nurses, the staff of the hospital requires the services of thirty-eight people. Five graduate nurses are employed on a salary in charge of different departments,—one in the children's pavilion, one in the male ward, one in the female ward, one for private patients, and one in the surgical pavilion. By reason of this supervision, a decided improvement upon the old method, every patient is always under the immediate oversight of a trained nurse of experience.

The nursing staff at the present time consists of thirty-nine nurses in addition to the assistant superintendent, a night superintendent, two orderlies, and a night man. These pupil nurses in the training-school, in addition to caring for the patients under their charge, are required to pursue a thorough course of instruction to fit them for the practical work of their profession. Their duties require them to be on service twelve hours of the twenty-four, from seven o'clock in the morning until seven o'clock in the evening, or the reverse, with the privilege of two hours off each day and one afternoon each week. Constantly, throughout the year, lectures are given by a member of the staff to the nurses in training, two each week, which they are required to attend unless prevented by some insurmountable obstacle. Upon the thoroughness and efficiency of their training and experience depends the quality of service which we, as physicians, get from them in our daily work. Impor-

tant is it, therefore, that nothing be wanting to make that training thoroughly efficient.

The ROCHESTER CITY HOSPITAL is organized into the following departments:

General wards at.....	\$7.00 per week.
Private wards at.....	8.00 “ “
Special private rooms at.....	10.00 “ “
Private rooms, proper .....	\$16.00 to 25.00 “ “

The general wards are under the care solely of the visiting staff. The private wards, however, can be utilized by any physician in good standing for the care of his patient. The food-supply and the service rendered are supposed to be identical to that furnished in the general ward. At the increase in cost of but one dollar a week, a patient, if so desiring it, may be attended by her own physician, irrespective of his being associated or not with the hospital staff. To meet the requirements of those who desire the privacy of a room and yet who cannot well afford the luxury of more expensive quarters, special private rooms have been provided at the very moderate rate of ten dollars per week. The service and food-supply in these rooms are also supposed to be on a par with that furnished in the general ward, the privacy of a room being regarded as an equivalent for the slight increase in charge. It was not intended that patients able to pay a higher rate should avail themselves of this service. For that class of patients private rooms proper cost from sixteen to twenty-five dollars per week. The occupants of these rooms are properly allowed a more liberal supply in service and food. It has been shown that the average cost for maintenance per patient per week in the hospital was eleven dollars and thirty-four cents,—not a very large margin of profit for the hospital when the patient pays but ten dollars in a private room. As an instance of how easy cost of maintenance may be increased, let me cite you a recent example of a patient in one of the ten-dollar rooms whose food and medicine alone actually cost eight dollars and twenty-five cents, leaving but one dollar and seventy-five cents for heat, light, and service, as well as for the board of an outside nurse who was caring for her. As a further illustration of the cost of care in some cases, let me cite two recent cases placed in the private ward under the care of a physician not on the regular staff, to whom was furnished freely everything needed for their proper care. These two cases resulted from serious burns and paid the regular private ward price of eight dollars per week, or one dollar and fifteen cents each per day. The physician in attendance upon his first visit properly ordered the house surgeon to do the dressings. This required six and one-half hours of the surgeon's time in these two cases, and the ointment prescribed cost the hospital *one dollar* per day per patient. The day follow-



ing the physician very properly modified the ointment and arranged to have one special nurse, day and night, between the two cases, thus relieving the house surgeon from the expenditure of so much time. In these cases the average daily cost for the first four days for each patient, for material, ointment, and drugs, was eighty-eight cents, leaving for the hospital twenty-seven cents for board and such service as was required.

A modern hospital, then, is a very complex institution, requiring in its management economy on the one hand, to satisfy the Board of Trustees, and yet on the other the widest generosity in furnishing service essential to every need. The superintendent stands between the trustees on the one side, clamoring constantly for more and more economy in management, and the physicians on the other, constantly on the alert for the outlay of money in new directions which promise quicker and surer relief to their patients. The instruments must be kept in order, the sterilizing plant ready for instant use, the linen supply must be inexhaustible, the purchasing department run economically, the work of the nurses so timed that the physicians will find everything in readiness for their visits, all the domestic arrangements of a vast housekeeping carefully supervised, a corps of young women nurses personally watched and guarded, the petty squabbles in the service controlled, the requirements of the visiting physicians courteously met, and the numberless questions of anxious visitors generously satisfied. Furthermore, it is the boast of every modern hospital to be able to provide for everything that is needed without delay. No shortage in towels, linen, instruments, drugs, anæsthetics, or service can be tolerated. Equally necessary is it to be able to meet the demands for special nurses. And as an illustration of the capacity of our Rochester City Hospital in that direction, I would remark that at one time nineteen patients in the private rooms in the mansard were receiving the undivided attentions of eighteen nurses, two of whom only were "specials" from outside the hospital training-school. Again, not long ago, in the west hall of the hospital fourteen physicians were visiting at the same time among fifteen patients, requiring the attention of the nurses in charge. At another time recently I was told by the nurse in charge of the private wards and private rooms that she received orders from eighteen different physicians in one day. What better can illustrate the stress placed upon hospital service by the demands of the physician and surgeon of to-day?

How, then, can we estimate the value of the modern hospital to the public? The facilities furnished are of such a nature as to make them impossible even in the most luxurious home. To insure the same safety in surgical operations, think of the cost and of the impossibility of getting such generous assistance. For the medical patient the hospital, with

its quiet, its facilities, its freedom from home cares and disturbing friends, is often of the utmost importance to recovery. Service such as is given by our best hospitals can be secured under no other conditions with equal success. Service must then necessarily stand first in importance. Patients ought to realize that an efficient service counts more for recovery than a mere matter of more tempting food, if the quality of the food so far as nutrition and sustenance is concerned is sufficient. The highest possible service in any given hospital should merit the commendation of the public, rather than the variety and tempting quality of the food-supply.

That such service in the care of surgical and medical cases is being appreciated is well illustrated by the growing use of the hospital by physicians not directly associated with the hospital as staff attendants. For the past six years the statistics of the City Hospital show that each year an increasing number of our medical men are availing themselves of hospital care for their patients. During the past year seventy-five physicians—not members of the hospital staff—treated their patients in the City Hospital.

What, furthermore, is the value of the modern hospital to the general physician? As an interne, he secures the best part of his education in the practical treatment of disease; in the out-patient department, he continues his acquaintance with disease and its various manifestations; as a staff physician, he acquires by experience that definite knowledge of morbid conditions which marks one as a good consultant. Always the young physician has the opportunity of witnessing operations through the courtesy of the surgical staff. The training-school, furnishing, as it does through its graduates, the greatest assistance ever evolved for the physician, directly benefits the professional career of every medical man. Doubtless a well-equipped nurse does as much to build up the reputation of the physician as any other of all his armamentarium. We owe it to them, to our own selves, and to our professional position to do everything that will aid in the training of these nurses.

The Rochester hospitals occupy a unique position in allowing any surgeon a free use of the operating-pavilion. In all the larger cities the important hospitals only permit their staff surgeons to operate in the operating-room, thus requiring all cases referred to the hospital to be operated on by some member of its staff. In Rochester it is possible for any surgeon or physician to take the care of his patient personally through an operation or through any illness requiring hospital care. In all serious cases the cost of hospital treatment compared with home treatment is very much reduced, and it is thus possible for a physician often to secure a satisfactory fee when otherwise the cost of caring for his case

would leave little for him. It is not too much, then, for a hospital to expect that every physician will treat it fairly. If the patient is able to pay a large fee for an operation, he must at least be quite as able to pay for the service of a full private room. I am told by some of the trustees that in some instances the privilege of the low-priced rooms has been abused in the past, and that a patient supposedly too poor to pay for a more expensive room has been charged a fee of from one hundred and fifty to two hundred and fifty dollars by the operating surgeon. This is manifestly unfair, inasmuch as the service of that room is not met by the charge of ten dollars per week. The adoption of a rule requiring that patients occupying the low-priced rooms be charged a correspondingly moderate fee has been suggested to meet this condition. Furthermore, one peculiar way in which the hospital serves the physician is that it has to bear the blame for untoward results. Many times has the hospital been condemned when the physician or surgeon in charge should bear the blame for an unhappy result. The modern hospital, then, deserves constant hearty support of the public for the quality and character of the service rendered. There should be, however, the clearest discrimination in the real value of hospital treatment: it is the service, not the food, which counts and costs.

The hospital service should then be used to its uttermost for a noble end, that contemplated by its charter—the curing of disease and the preservation of human life; not from the sordid desire on the part of the physician to get as large a fee as possible at its expense.

Only through the recognition of the fact that efficient hospital care is expensive in proportion to the character of the service rendered can a just estimation be reached regarding the cost of maintenance. Hospitals need fair treatment from those who most benefit by them,—the patients who receive the care, the physicians who reap the reward.

